PEC BEFORE PIC

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ABSTRACT

Although English is the international language of aviation, it is widely known that nonnative English-speaking pilots vary considerably in their ability to communicate in English. As language skills are measurable, this paper argues for the need to establish a clear criteria for minimum English proficiency skills for those pilots and candidates for whom English is a second/foreign language.

In order to promote better communication and more safety in the skies, it is proposed that a Pilot English Check (PEC) be administered to all nonnative English-speaking trainees as well as pilots transferring foreign licenses in the US before these individuals are allowed to fly solo (PIC). The function of the PEC would be to probe into the level of the candidate's general English proficiency in particular. Memorized aviation English alone without an underlying communicative competence in English is a sure recipe for a disaster, particularly in an unfamiliar and unexpected situation.

The purpose of this paper is two-fold: (1) to call for clarification with specification of FAA English requirements, and (2) to press for the development of a standardized English language test, which is to be systematically administered to all nonnative English-speaking pilots before they are endorsed to fly solo in the US.

INTRODUCTION

Not long ago, an international pilot candidate was taking the oral test immediately preceding his check ride with an American examiner. The student answered the American examiner's first questions about aerodynamics somewhat haltingly but correctly. After a few moments, however, the examiner began to suspect that all the student's answers were memorized word for word. The question-answer process became extremely tedious and repetitive. The student's answers were formulaic in nature and he could not expand on any topic when prompted by the examiner. Diverting the dialog from the formal examination to a more personal conversation, the concerned examiner asked the candidate:

"Are you following me?"
"Uh, yes"
"Would you like to continue?"
"Uh, yes."
"We can stop, if you'd like."
"Uh, yes."
"What would you like to do?"
"Yes."

After a few more similar exchanges, the frustrated examiner finally blurted,

"Do you want to marry me?!"

And, the equally frustrated student barely audibly whispered his familiar answer,

"Uh, yes."

The student in the above true story obviously failed his oral test – not because he hadn't studied the answers to the test questions but because those answers were the only thing he knew in English. Although the student had mastered certain aviation English and

remembered phrases and answers by heart, he apparently had no other English proficiency whatsoever. He was able to parrot the correct answers to questions, which were his cue to speak, but he was totally unable to understand or respond appropriately to anything outside of the memorized material. The seasoned examiner in our story deemed the international pilot candidate's English "unairworthy" and told him to go learn English. Rightly so.

THE PROBLEM

In various aviation circles, countless stories and anecdotes are being told of nonnative English-speaking student pilots and even licensed pilots who have jeopardized their own safety as well as that of others by attempting to function in aviation-related tasks with little if any English other than their memorized aviation repertoire. Some of these individuals "get caught" before or after a license is granted to them, but others slip through the system and continue to operate with very limited English skills.

Some pilots function – in and out of the cockpit – only with memorized, and thus very limited, aviation phraseology; others, on the other hand, can perform a variety of tasks – aviation-related and otherwise – with near-native like English proficiency. Consequently, a great disparity exists between nonnative English-speaking pilots' language skills. The FAA clearly states that pilots must be able to read, write, speak and understand English. Yet, the degree to which each of the above language skills must be mastered remains very unclear be prepared to demonstrate to the inspector that he can, in fact, read, speak, write, and understand the English and ambiguous from a linguistic point of view as does the method by which the nonnative English-speaking pilot or trainee might be asked to demonstrate his/her language proficiency.

In some cases estimating the foreign pilot applicant's English ability is a simple task: When the individual responds to a question with a blank stare, he most likely has not understood the question. Similarly, when little other than "yes" or "no" or "uh" is uttered by the applicant, one might suspect the same. Others may appear more fluent on the surface as they are able to navigate through a simple conversational exchange by being lucky: all the words and phrases used by the native speaker were familiar! Just as it takes a trained eye to determine whether a candidate is skilled enough to pilot an aircraft alone, it also takes a professionally trained ear to be able to detect whether a nonnative speaker of a language is truly competent in that language.

Asking a flight examiner to be the sole judge of a foreign pilot applicant's English ability might be placing an undue burden on that examiner. Yet, this is what is clearly happening as explained by Stuckey: "Ultimately, the designated examiner and the aviation safety inspector are required to evaluate each applicant's eligibility, including English fluency…."[1] And, Gilliom laments, "This is sometimes a problem area for the FAA inspector involved and for the foreign pilot applicant. Until such time that a standardized English test is adopted by the FAA, a person applying for a certificate under FAR 61.75 must language."[2] If the examiner has a problem in knowing how to measure language ability accurately and

consistently in each separate case, the linguist sympathizes with his problem. For language to be tested accurately, certain minimum competencies should be established, listed, and tests should be developed to that look for those minimum competencies consistently and accurately. In other words, just as check rides have been developed to look for certain minimum standards in one's flying ability, similar procedures are necessary to ensure the accuracy of the candidate's English speaking assessment.

LANGUAGE SKILLS

Language professionals divide language ability into four basic skills: listening and reading, which are considered to be receptive skills, and speaking and writing, which are so-called productive skills. Seldom is the second/foreign language learner equally competent in all four areas. One may be able to read well but speak poorly. This is often the case, for example, with Asian students as their English education, generally speaking, focuses primarily on the written text rather than the spoken word.

Let us isolate the ability to speak in another language for a moment and consider just a few of the situations and functions that illustrate the multiple factors that are related to speaking fluently. Even though native speakers of a language share definite similarities in their pronunciation and fluency, their oral competence and performance varies tremendously depending on their socioeconomic background, level of education, position in society, etc. An educated native speaker handles all conversation and statements directed to him? But, what about culturally loaded comments? Does he need to understand communicative situations competently, whether in the super market, restaurant, college classroom, cocktail party, or an accountant's office. The native speaker can also handle all potential functions and situations where the language needs to be used: she can compliment, apologize, refuse requests, speak with idioms and proverbs, understand dialects, discuss cultural traditions, history, philosophy, and even be tuned to nonverbal language, recognizing people's intentions and identifying moods without any words being exchanged. In other words, one's ability to speak a language consists of many factors that all contribute to the conversational content and fluency. Mastery of another language where it approximates that of a native speaker is a formidable task. Language and culture are totally intertwined, which only complicates the process of learning another language.

So, when the FAA states that the nonnative English-speaking pilot should "speak English," what does that entail? Does the candidate need to be able to perform all of the oral functions an educated native speaker might find herself in? Does she need to be able to give speeches in front of a group or is it enough to be able to make statements and ask questions? What does it mean to "speak English?"

Likewise, to be able to "understand English" needs clarification. Must the foreign pilot candidate understand everything he hears in English: songs, poems, lectures, sermons, small talk? Or, is it enough if he understands

David Letterman, or is it enough to be able to decode basic conversational English? Then again, does

"understanding English" refer mainly to radio communication when flying? What exactly does the FAA regulation about understanding English mean?

Is near native-like competence required in all situations? Doe in a 1996 Advisory Circular refers to the necessity of being able to "read, write, and converse fluently in English" and "speak it without accent," apparently implying that native speaker-like competence is the only acceptable norm.[3]

In sum, the basic problem with the FAA regulatory English language requirement is the lack of definition for what is meant by "be able to read, speak, and understand the English language." It is clear that the above skills are mandatory for all pilots, as they should be, but to what degree?

Perhaps the good news here is that language skills are measurable. Many commercial tests (such as the famous TOEFL) are already in existence and are being used by various schools and agencies to test, for example, students and employees as they enter and exit programs. Each test has been designed for a specific purpose with a specific target audience in mind. It would seem, however, that no existing test without modification is completely appropriate to evaluate nonnative English-speaking pilots' language proficiency. Aviation English has some unique characteristics that call for an aviation-specific English proficiency test.

PILOTS' ENGLISH PROFICIENCY

obtained, memorized, by native and nonnative speakers of English alike. It is a professional jargon understood and

Linguistic analysis of aviation English reveals certain distinct characteristics of the language used by aviators. Radio communication tends to be in short phrases or fragments rather than complete sentences. The emphasis is clearly on content words; grammatical words and word endings are often left out completely. The transactions are fact-based, basically void of cultural items. One seldom hears "small talk" between the cockpit and the tower. Aviation English, for the most part, seems to be rather predictable; the language usage is well-defined and confined to set situations and patterns.

When flying PIC, pilots need to be able to perform at least the following linguistic tasks: declare intentions, make and negate statements, ask questions, clarify information, repeat information, follow directions, describe situations, and respond and function in emergencies. In order to perform these tasks, the memorized phraseology is not always sufficient. Especially in an unusual or new situation, the pilot may need to resort to "regular" English to explain or describe what is happening. It is imperative that the minimum English proficiency of foreign pilots include a command of basic English sentence structure and communicative strategies.

Communicative English competence to a pilot is like soil to a plant: one does not

survive without the other. Aviation English is like a flower that must be used mainly by those who are seriously involved with aviation. But, just possessing the flower without the

appropriate amount of dirt is insufficient for successful gardening. Soil must be present in which the flower can root itself in order to survive and flourish. In a like manner, underlying English competence is required for aviation English to be available and useful under all circumstances. General language ability supports all aviation-related tasks and functions, providing the pilot with the necessary skills to cope in all kinds of situations.

PILOT ENGLISH CHECK

Before any student is allowed to fly solo, the instructor checks the student out to make sure that she can handle the aircraft alone safely and responsibly. The same kind of check is necessary to ensure that the nonnative English-speaking pilot can communicate clearly and understandably while flying PIC. So far, civil aviation has not had such a systematized language check, but the need for one seems to be increasing due to the rising numbers of international pilot trainees in the US and the number of foreign licenses being converted to US licenses. The current problem is a lack of a standardized English test, which would yield reliable results each time. Each examiner is left to using his own subjective estimation in evaluating a candidate's English competence. Some practical guidelines have been suggested by Doe[4] and Stuckey[5], but neither offers a standardized method of English testing.

Even though a paper and pencil test tends to lend itself to objective grading, it may not yield the desired results needed for a PEC. A carefully designed as soon as the English check reveals the areas where maintenance may be required. Without clear and specific FAA English minimum standards, interview (live or taped) may more accurately measure a candidate's listening and speaking proficiency in English rather than a random and unplanned testing action chosen by the evaluator. The benefits of a structured oral test are obvious: it yields consistent results, it cannot be studied for, and cheating is virtually impossible as answers are based on the carefully selected prompts given by the tester.

The goal of the proposed PEC would be to measure the "thickness" and the health of the language soil in the student's pot (general underlying English proficiency), not necessarily the height of the flower (achievement in aviation English). The purpose would be to make sure that the student can function in English with or without being able to recall all the exact phraseology used by aviators. In other words, the nonnative English-speaking pilot must be able to create novel and unrehearsed utterances in English in order to avoid and, in the worst case, to recover from a linguistic "stall."

One compelling reason for the PEC before PIC is safety. The nature of aviation is such that unpredictable things can happen. The pilot's response, however, should be predictable in that he has all the procedures at his disposal, including language readiness, to function in an emergency. If PEC is conducted before PIC, everyone will be happier. Students will learn early on in their training about their English skill level and can plan accordingly. In many cases, intensive English training may be necessary and should be embarked upon

however, English language training will not receive the kind of attention it deserves from flight instructors, flight schools, and the students themselves. Rules can be enforced only when clear rules are in place.

FAA English requirements need to be made specific: clear expectations and standards are to be spelled out so that appropriate and practical tests can be developed to measure whether the applicant has reached the minimum proficiency level expected of a pilot.

PROFICIENCY LEVELS

The tasks performed and the skills required by a private pilot as opposed to an instrument-rated commercial pilot differ to a considerable degree. It would seem to follow that the language required to facilitate the different ratings would also differ. Assuming this to be the case, I would like to propose for discussion a scale for measuring English language minimum proficiency for the various ratings. For clarification of the proposed scale, please, refer to "Language Proficiency Levels at a Glance" (Figure 1) and "Communication Requirements and Cultural Minimums (Figure 2). Note that although Figure 1 resembles an airspace chart, it is not. It represents English proficiency skills, ranging from the lowest Level G to the highest Level A.

A student at the Ground Level is like the student we have already met: able to function in memorized phrases only but unable to create with the language. This type of pilot should not be licensed until he can demonstrate his speaking and listening skills have improved to include demonstrates professional mastery of the functions performed at Level D.

The Level D pilot can dialog back and forth in simple language although the situation itself might be complex. His language skills are high enough for him to perform all the functions required of private pilots. He may have an accent, but the accent does not hinder the understanding of the intended message. Various grammatical mistakes or omissions may be present in his speech, but this in no way compromises the two-way communication he is capable of participating in. In spite of grammatical inaccuracies, the content is accurate.

The Level C pilot is quite accomplished with his language skills in numerous tasks, although he may not be perfect. He can comprehend longer and more complex discourse, being able to respond with appropriate language in each new situation. His linguistic delivery and comprehension levels are sophisticated and advanced enough for him to be a professional aviator. He is equipped with the kind of language that supports all of his professional flight activities, in which he has a considerable amount of responsibility.

The Level B pilot is for all practical purposes on an equal footing with an educated native speaker. Her English is so superior that she can not only fly in an ATP capacity but can also instruct others to become pilots. It is a linguistically complex task to explain concepts to others: the instructor often needs to paraphrase, summarize, use synonyms, etc. to make an issue clear. Being able to do all of the above, the professional Level B pilot also

English as a foreign language.

Language skills at Level A are superior in all areas. An individual at this level is capable of doing graduate work in the field of his choice. His knowledge of English may surpass that of native speakers in terms of its academic content. This individual has no limitations with his career choice and can aim as high as he wants to.

Language that is used in Level E is the kind that goes on everywhere around us. It is the chitchat that happens when walking from the aircraft back to the debriefing room with an instructor. It is the small talk that goes on in coffee shops, student lounges, parties, homes, etc. It is typically very culturally loaded with little academic substance. Proficiency in Level E does not seem to apply to pilot English training per se. Being skilled in Level E is a socially welcome and pleasant experience but not mandatory for being a proficient user of English as a pilot.

In sum, the minimum English proficiency levels recommended for licensing are as follows:

Level D: Private License
Level C: Commercial License
Level B: ATP and CFI Licenses

Level G is too low to perform aviation-related tasks safely. Level A is all encompassing and certainly surpasses any expectations set out by the FAA. Level E, for all practical purposes, is irrelevant.

CONCLUSION

English is the international language, the lingua franca, of our world. According to some conservative estimates, there are about 1.5 billion users of English as opposed to approximately only 350 million native speakers. Clearly, English is overwhelmingly being used to perform various tasks worldwide, achieve numerous goals and to assist in global communication.

Each native variety of English consists of regionalisms, dialects, slang, and accents, so the notion of "standard English" becomes elusive: no one really knows what it is nor does anyone really speak it. Adding the many variations of English spoken throughout the world, the attempt to define standard English becomes even more difficult. There is no such thing as "perfect English" or "accentless English," let alone any one variety that surpasses all others in any sense.

English is also the lingua franca of aviation where native and nonnative speaking pilots, air traffic controllers and all other aviation-related personnel have to communicate with each other clearly. This is often difficult due to poor radio reception and the inability to see the person being spoken to. It is impractical as well as impossible to expect that all people using and speaking English should sound alike. It is appropriate, however, to expect users of the same language to understand each other. In aviation, mutual understanding is imperative.

This paper has suggested basic language proficiency levels for the different types of licenses and ratings offered by the FAA. The linguistic competencies exhibited at each level with the minimum linguistic functions required for accurate and safe communication practices have also been described. It is hoped that the FAA seriously consider

implementing clear and specific English language requirements for all nonnative speakers to decrease the number of "Say again" incidences.

In order to ensure that all pilots' English is "airworthy," it has been proposed that nonnative English-speaking pilots be administered a FAA-approved test of their oral and aural skills. This Pilot English Check (PEC) should be given before the trainee or the foreign licensed pilot gets the endorsement to be the pilot-in-command (PIC).

The international pilot candidate we met in the Introduction had to go back to his home country to study English before he could continue his training. By enforcing English requirements early on in training programs, much money and time could be saved. If also aircraft and lives can be saved by adding a simple language check to FAA licensing requirements, better yet.

REFERENCES

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